FIG. 1

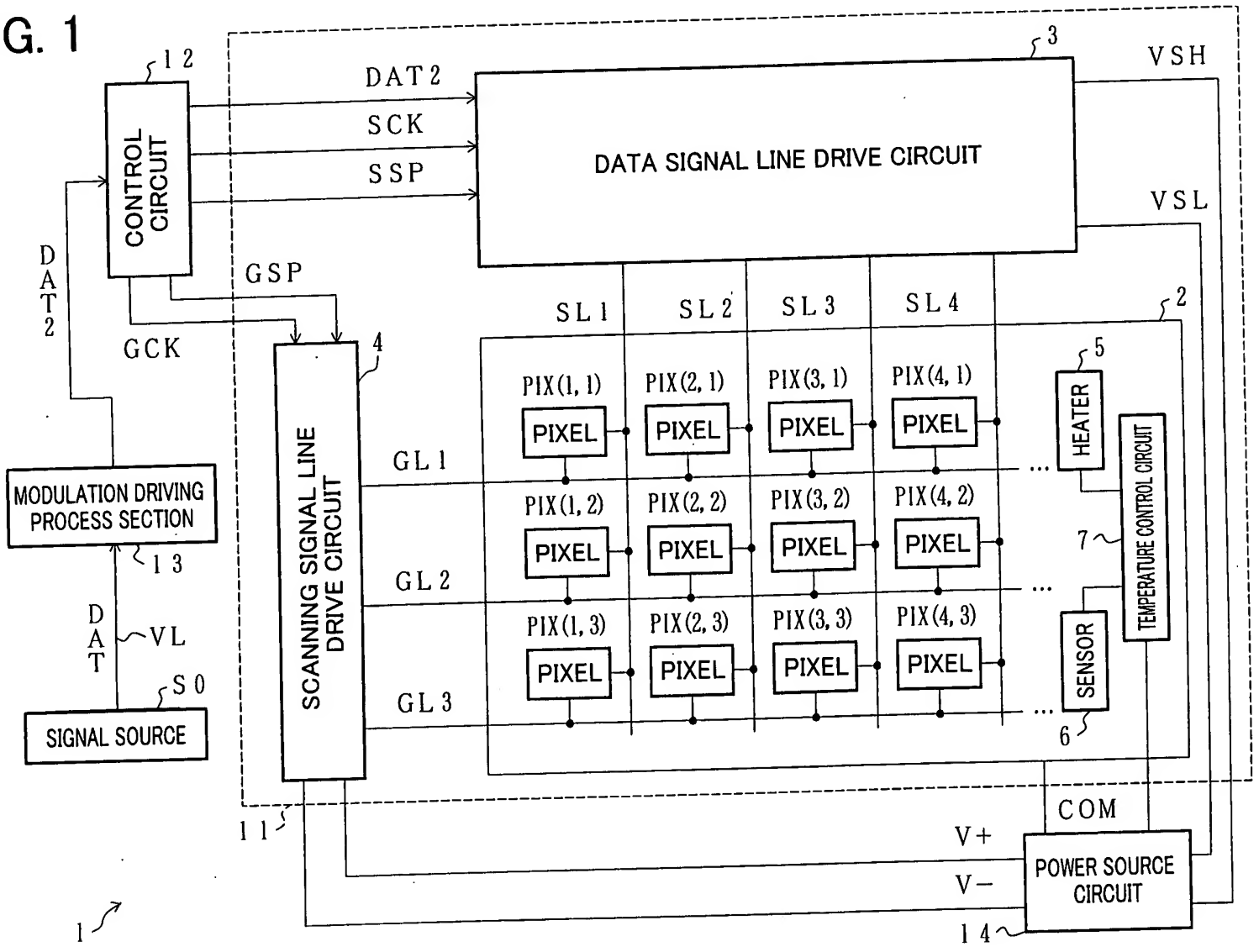
12
CONTROL CIRCUIT
DAT2
SCK
SSP
3
DATA SIGNAL LINE DRIVE CIRCUIT
VSH
VSL
DAT2
GSP
GCK
4
SCANNING SIGNAL LINE DRIVE CIRCUIT
SL1
SL2
SL3
SL4
2
5
HEATER
7
TEMPERATURE CONTROL CIRCUIT
SENSOR
6
GL1
GL2
GL3
PIX(1, 1)
PIX(2, 1)
PIX(3, 1)
PIX(4, 1)
PIX(1, 2)
PIX(2, 2)
PIX(3, 2)
PIX(4, 2)
PIX(1, 3)
PIX(2, 3)
PIX(3, 3)
PIX(4, 3)
PIXEL
MODULATION DRIVING PROCESS SECTION
13
DAT
VL
SIGNAL SOURCE
S0
11
COM
V+
V−
POWER SOURCE CIRCUIT
14
1

FIG. 2

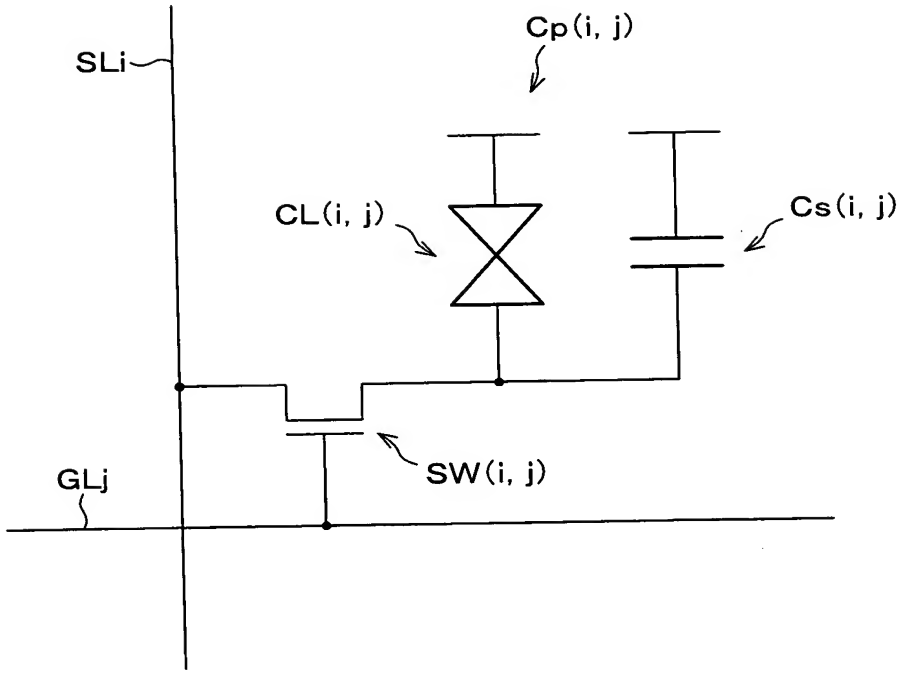

FIG. 3

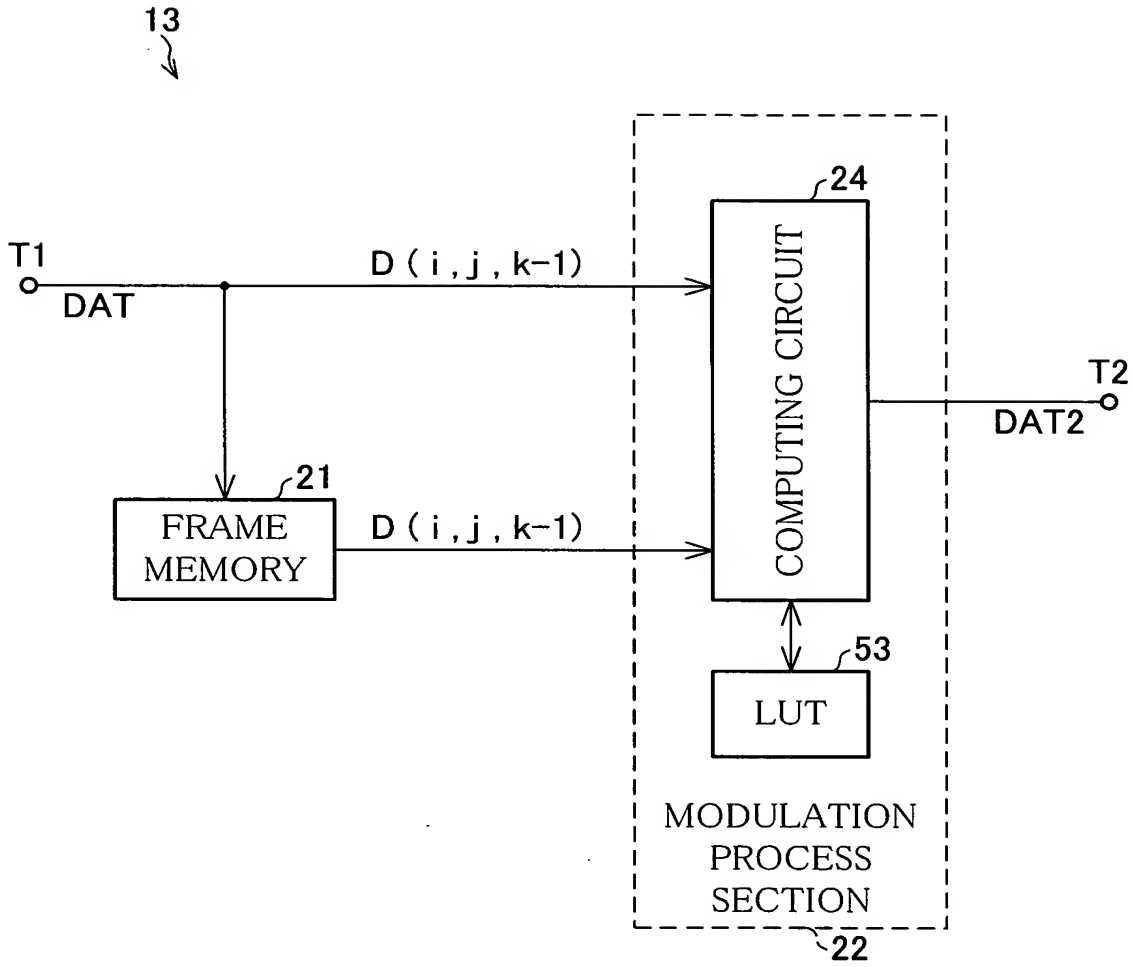
13
24
T1
DAT
D (i , j , k-1)
COMPUTING CIRCUIT
T2
DAT2
21
FRAME MEMORY
D (i , j , k-1)
53
LUT
MODULATION PROCESS SECTION
22

FIG. 4

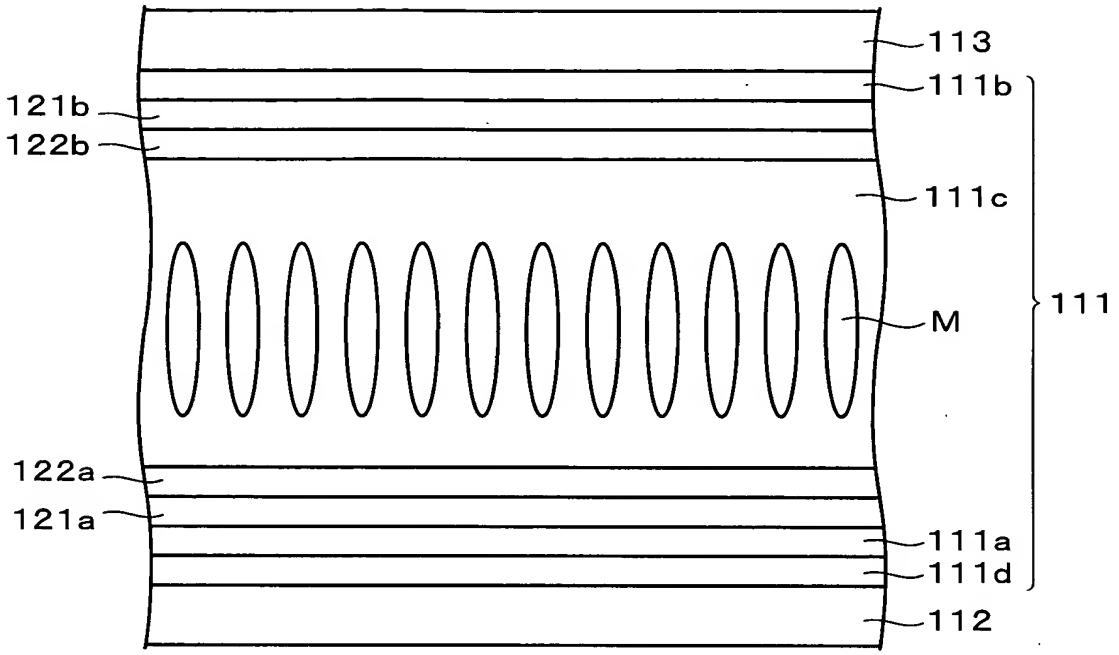
113
111b
121b
122b
111c
111
M
122a
121a
111a
111d
112

FIG. 5

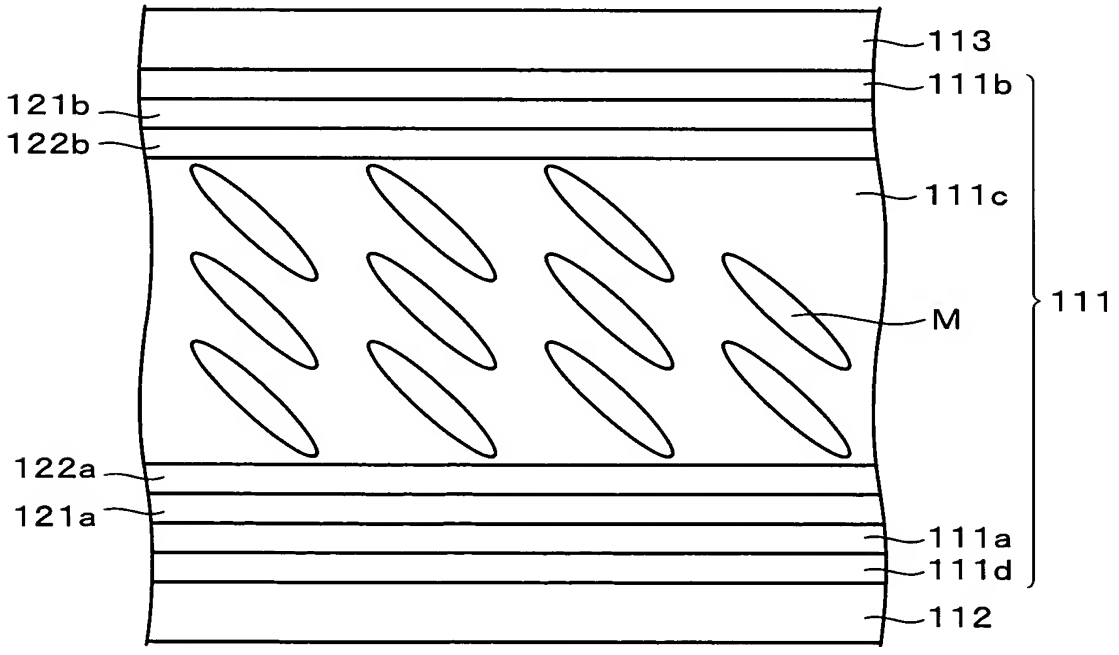
113
111b
121b
122b
111c
111
M
122a
121a
111a
111d
112

FIG. 6

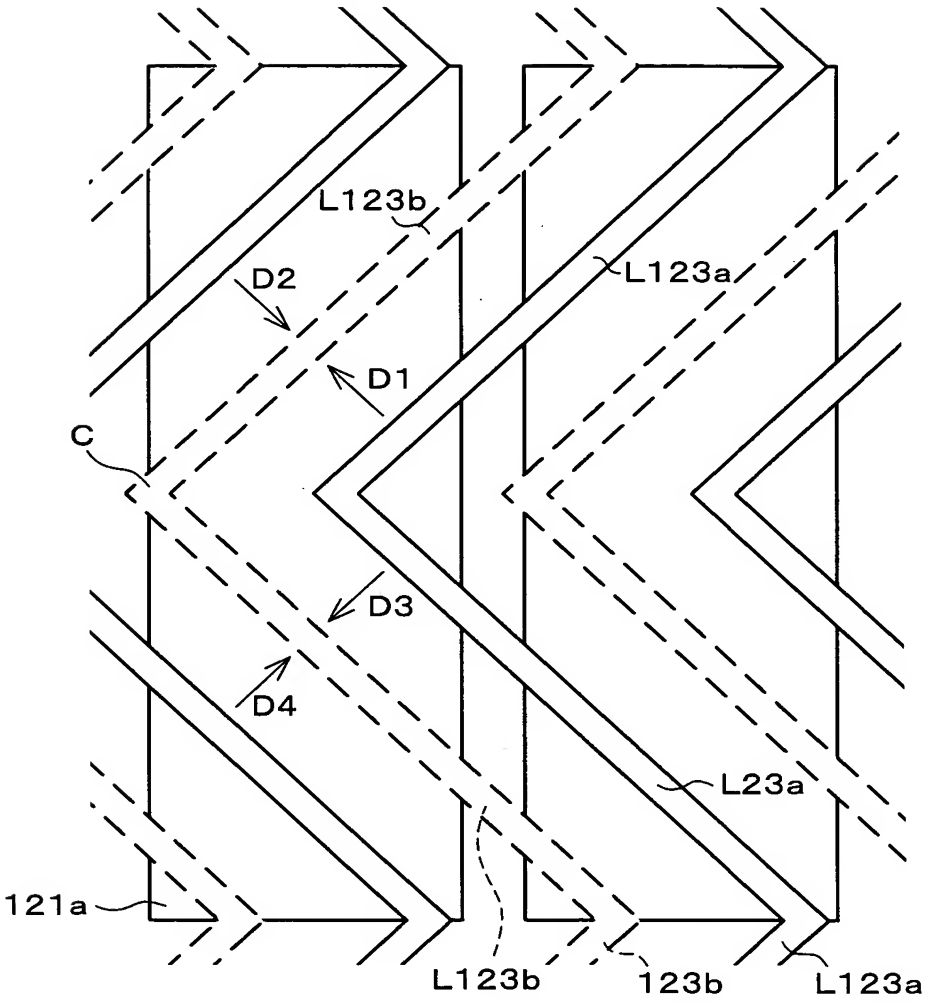

FIG. 7

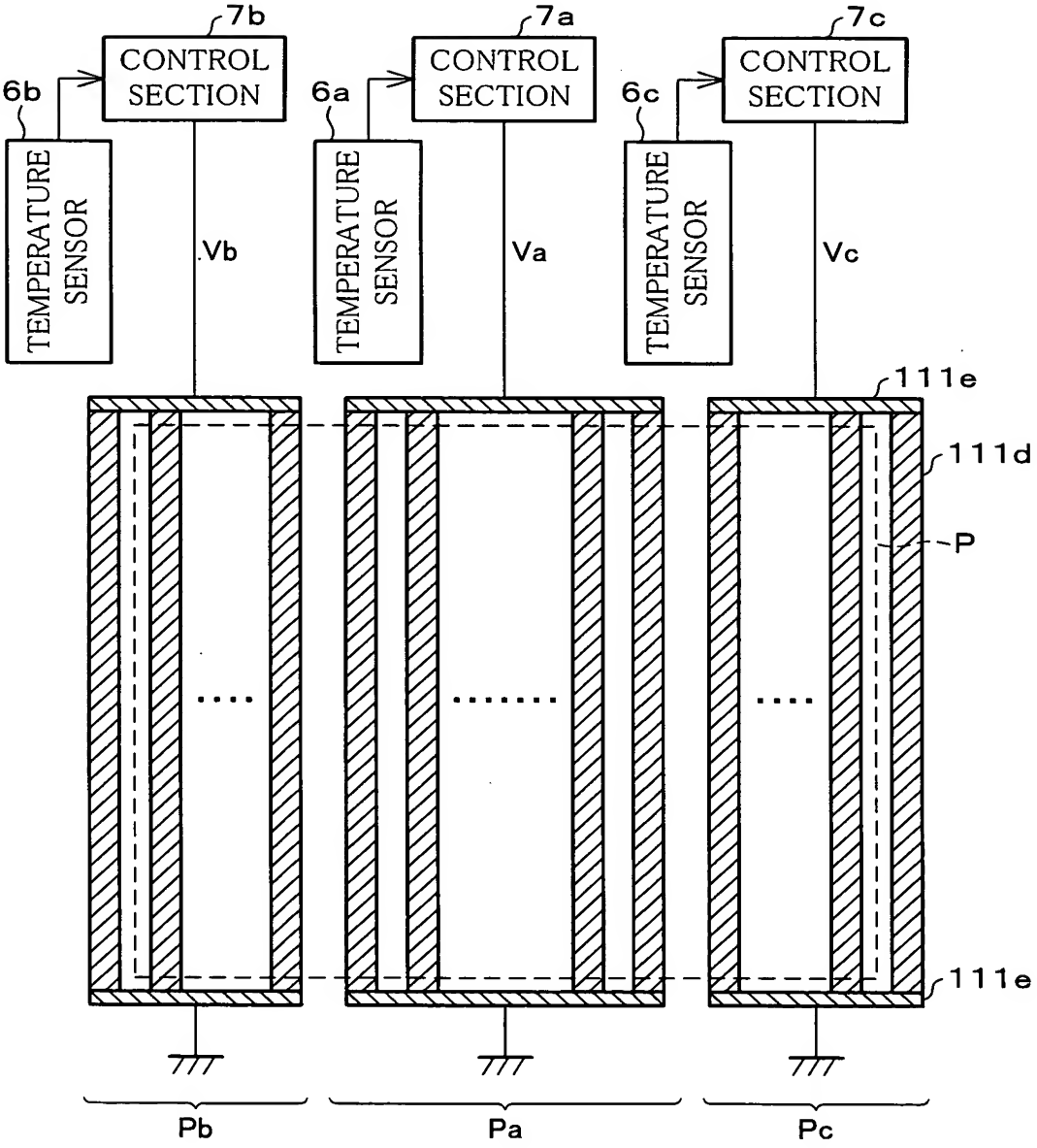
7b
CONTROL SECTION
6b
TEMPERATURE SENSOR
Vb
7a
CONTROL SECTION
6a
TEMPERATURE SENSOR
Va
7c
CONTROL SECTION
6c
TEMPERATURE SENSOR
Vc
111e
111d
P
111e
Pb
Pa
Pc

FIG. 8

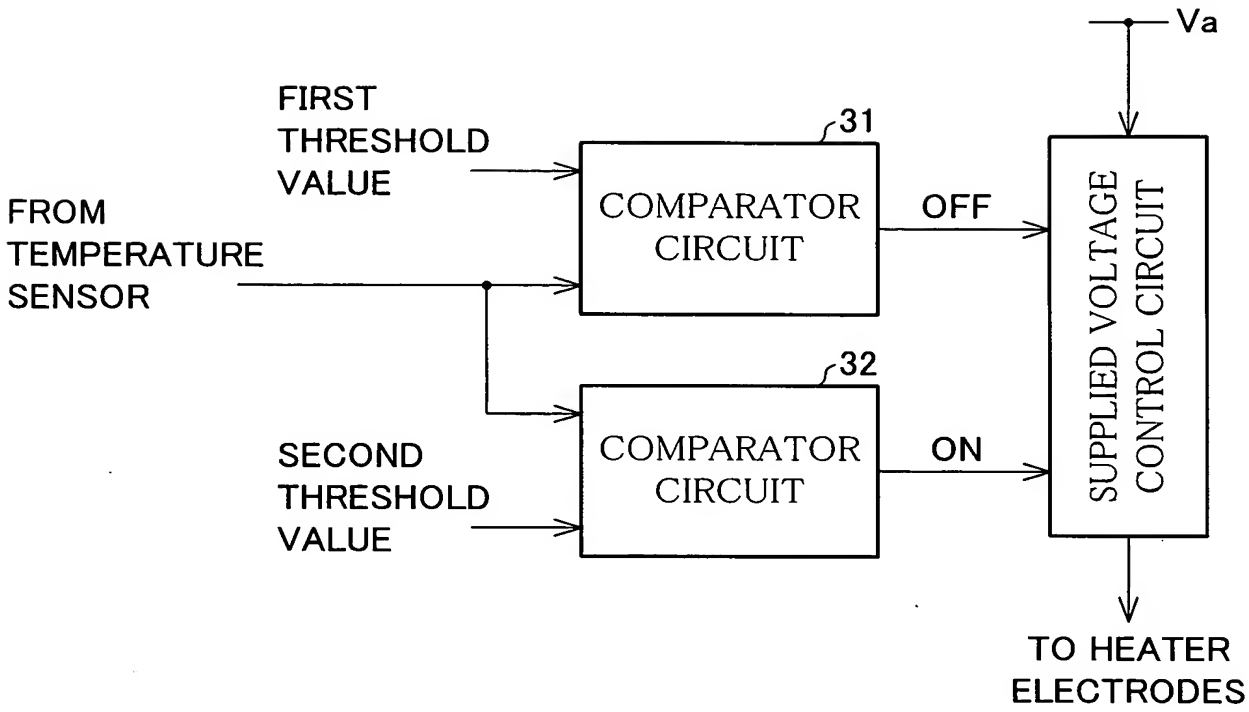
Va
FIRST
THRESHOLD
VALUE
31
FROM
TEMPERATURE
SENSOR
COMPARATOR
CIRCUIT
OFF
SUPPLIED VOLTAGE
CONTROL CIRCUIT
32
SECOND
THRESHOLD
VALUE
COMPARATOR
CIRCUIT
ON
TO HEATER
ELECTRODES

FIG. 9

40		TARGET GRAYSCALE LEVEL								
		0	32	64	96	128	160	192	224	255
START GRAYSCALE LEVEL	0	0	62	112	142	160	189	210	240	255
	32	0	32	79	122	146	182	207	237	255
	64	0	21	64	106	138	176	203	235	255
	96	0	16	54	96	132	171	200	233	255
	128	0	11	47	89	128	167	198	231	255
	160	0	7	39	80	118	160	195	228	255
	192	0	5	34	74	111	155	192	226	255
	224	0	2	28	65	99	149	186	224	255
	255	0	1	24	58	95	145	181	222	255

FIG. 10

35		TARGET GRAYSCALE LEVEL								
		0	32	64	96	128	160	192	224	255
START GRAYSCALE LEVEL	0	0	72	132	157	175	197	214	241	255
	32	0	32	87	130	153	187	209	238	255
	64	0	17	64	110	141	179	205	236	255
	96	0	10	49	96	133	173	201	234	255
	128	0	5	41	86	128	168	199	232	255
	160	0	3	31	75	115	160	195	229	255
	192	0	2	25	65	105	154	192	227	255
	224	0	1	19	53	91	147	185	224	255
	255	0	0	12	44	81	140	179	221	255

FIG. 11

30		TARGET GRAYSCALE LEVEL								
		0	32	64	96	128	160	192	224	255
START GRAYSCALE LEVEL	0	0	80	136	164	183	201	216	241	255
	32	0	32	91	134	157	190	210	238	255
	64	0	15	64	112	143	181	206	236	255
	96	0	7	47	96	134	174	202	234	255
	128	0	2	38	85	128	168	199	232	255
	160	0	1	27	72	113	160	195	229	255
	192	0	1	21	61	102	153	192	227	255
	224	0	0	14	47	87	146	184	224	255
	255	0	0	6	37	74	137	178	221	255

FIG. 12

25		TARGET GRAYSCALE LEVEL								
		0	32	64	96	128	160	192	224	255
START GRAYSCALE LEVEL	0	0	88	144	172	191	206	219	242	255
	32	0	32	95	138	161	193	212	239	255
	64	0	13	64	115	145	183	207	237	255
	96	0	4	45	96	135	175	203	235	255
	128	0	0	36	84	128	169	200	233	255
	160	0	0	24	70	112	160	196	230	255
	192	0	0	17	57	99	153	192	228	255
	224	0	0	10	42	83	145	184	224	255
	255	0	0	1	30	68	135	177	221	255

FIG. 13

35		TARGET GRAYSCALE LEVEL								
		0	32	64	96	128	160	192	224	255
START GRAYSCALE LEVEL	0		101.3	104.3	97.0	95.6	97.0	98.8	99.5	85.0
	32	96.6		101.2	95.2	96.5	99.7	98.1	98.4	92.5
	64	98.3	101.4		96.5	98.5	100.1	97.8	100.7	93.7
	96	98.9	99.3	102.6		95.6	97.4	97.7	99.7	95.1
	128	99.1	99.4	98.2	100.8		96.8	98.9	97.8	96.0
	160	99.2	100.3	99.0	103.6	99.5		98.6	100.7	97.3
	192	98.8	100.0	98.5	103.3	100.7	103.3		95.1	99.3
	224	99.0	99.6	100.0	103.3	99.7	101.4	100.2		99.2
	255	99.0	99.7	99.7	100.9	98.4	102.7	102.0	101.6	

FIG. 14

40		TARGET GRAYSCALE LEVEL								
		0	32	64	96	128	160	192	224	255
START GRAYSCALE LEVEL	0		87.6	87.6	85.0	79.4	87.7	93.8	99.5	84.8
	32	95.9		90.2	87.7	81.8	91.6	93.6	98.3	92.7
	64	98.4	97.0		86.7	86.7	91.4	98.0	101.2	94.1
	96	98.9	97.5	96.2		92.0	93.4	97.6	99.8	95.4
	128	99.0	99.6	98.3	95.1		92.8	94.9	97.7	95.9
	160	99.2	99.6	96.9	93.7	99.9		87.1	100.5	97.2
	192	98.9	99.4	97.1	94.7	97.5	99.6		95.0	98.4
	224	98.9	99.7	98.8	94.5	97.6	95.8	100.3		97.6
	255	98.9	99.3	98.6	94.4	96.7	97.2	96.7	102.2	